

D2

~~the fixing devices of the flexible structure, each parallel piece having lower link devices for the lower hooking devices.~~

REMARKS

The preceding amendment and following remarks are submitted in response to the presently outstanding Office Action.

In paragraphs 1 the drawings were objected to because figure 1 fails to show how the flexible item is attached to member 26. The flexible item is attached by item 16, defined on lines 1-2 of page 10 of the substituted specification as: "Here, the item 16 is a synthetic, for example, carbon fibre cylindrical tube which lies across." Item 16 is shown quite clearly in FIG. 5. The topmost end of elevation structure 41 terminates in a ring which is penetrated by item 16. An arrangement incorporating this description is now shown in a substituted FIG. 1, with item 16 now numbered and shown penetrating the ring. Item 16 extending through the ring end of structure 41 will clearly secure it in place. It is respectfully submitted that the illustration now shown in substituted FIG. 1 is in conformity with both the above description and as depicted in FIG. 6. Objection was also made to the same elements having the same reference number in

that in figure 1 the upper part is labeled 26 and in figures 4a and 5 it is labeled with other reference numbers.

In the substituted specification page 9, line 21 states: "Flap 26 stretches across and forms an open channel 27." This statement is illustrated in FIG. 6. It is respectfully submitted that number 26 in FIG. 1 was directed to that part of FIG. 1 and did not indicate the upper part of the figure, in addition number 13 has been added to indicate the upper hooking device. However, number 26 has been deleted from FIG. 1 because this identification is not essential to the understanding of its function since, as indicated above, this is shown more clearly and in greater detail in FIG. 6. In addition numbers 1 and 38 has been deleted to avoid confusion because of the similarity of the elements previously indicated. Further, number 2 is now shown with the lead line not touching the figure to indicate the display and only number 8 has a lead line touching the figure to indicate the poster surface.

In regards to other elements which have the same reference number, number 34 was assigned to "linking devices" on page 11, line 1, and to "branches" on page 18, line 7. The specification has been amended as indicated above to substitute number "76" for "34" as the designation for

"branches", and the number designation in a substituted FIG. 14 changed accordingly. Number 15 was assigned to "binding item" on page 8, line 19, and to "strip board" on page 19, line 8. The specification has been amended as indicated above to substitute number "77" for "15" as the designation for "strip board" and the number designation in a substituted FIG. 17 changed accordingly.

In paragraph 2 the drawings were objected to under 37 CFR 1.83(a) requiring that the drawings must show every feature of the invention specified in the claims, and cited the following objections. In claim 1 reference was made to "support devices" (plural), the linking devices, the lower hooking devices (plural), the two sets of lower and upper hooking devices. In claim 9 reference was made to the two support devices. In claim 10 reference was made to the two stretched parts of the base. In claim 23 reference was made to the packaging set of cylindrically shaped container.

Regarding claim 1, in the substituted specification page 10, lines 4-7 state: "They include a binding item 15 for poster 8 and a rod-shaped item 16 as described above, as well as support devices 29." FIG. 1 indicates two support devices 29 opposite to each other. In the substituted specification page 11, line 1 states: "Lower linking devices 34 are hook-shaped

59." In substituted FIG. 7 the lead line for number 59 has been changed to indicate an added 34 which now indicates a pair of side by side "lower linking devices", and a new lead line for number 59 has been added which terminates short of the figure to indicate both devices 34, which now conforms to the above description.

In the substituted specification page 8, lines 6-9 state: "Hooking devices 4 include upper hooking devices 13 and lower hooking devices 14. Here, these devices 13 and 14 are for example, hollow tube-shaped fibre rods." Number 13 has been substituted for number 26 in FIG. 1 with its lead line terminating short of the figure to indicate the complete upper hooking device, and the lead line for number 14 designation now has the line terminating above the device to indicate the complete hooking device, which are now consistent with the above description.

Regarding claim 9, the claim has been amended to omit the word "two" and "cross".

Claim 10 has been amended to substitute "parallel pieces" for "stretched parts". Page 10, lines 19-24 in the substituted Specification states: "Base 5 is mainly extended according to L side direction, perpendicularly to devices 14. It has a general head shape 31, the long longitudinal 32 part

of head shape 31 is set next to devices 14. This part 32 includes here two parallel pieces 33, extending sideways toward the devices 14." Pieces 33 are indicated in FIG. 7.

Proposed corrected drawings are being submitted correcting the above items and drawing corrections listed below as required by 37 CFR 1.83(a).

In paragraph 3 it was indicated that the substitute Specification was not entered because it lacked a marked-up copy. This substitute Specification in conformity with paragraphs 4 and 5 and a marked-up copy has been resubmitted as indicated above.

In paragraph 6 claims 1-24 were rejected under 35 U.S.C. 112, first paragraph. Objection was made to the same numbers in different figures having the same numerals.

The following numbers have been deleted in the substituted figures as indicated below to avoid confusion because of the similarity of the elements which they previously indicated: FIG. 7: 38; FIG. 12: 16, 29; FIG. 13: 16, 29; FIG. 14: 38, 39, 48, 58; FIG. 26: 29; FIG. 27: 29; and FIG. 28: 14.

Claim 1 was objected to because of no antecedent for "the opposite direction" and "the side direction", because of lack of clarity which devices are being referred to, and because of

lack of structure for the last three lines referring to the flexible structure.



Claim 1 has been amended to specifically correct the above objections.

Having thus addressed each objection and ground of rejection of the Examiner, currently pending Claims 1-22 and 24 are now asserted to be in condition for allowance. Entry of the present Amendment and reconsideration are respectfully requested.

Incorporated herein are the amended claims as they read after amendment. Please find herewith an ATTACHMENT reflecting the amended claims using bracketing and underlining format.

Please charge any deficiencies or credit any over payment to Deposit Account 14-0620.

Respectfully submitted,

Laurent MARCQ
By his attorney

Date October 31, 2002

Lawrence M. Nawrocki

Lawrence M. Nawrocki
Reg. No. 29,333
NAWROCKI, ROONEY & SIVERTSON, P.A.
Suite 401, Broadway Place East
3433 Broadway St. N.E.
Minneapolis, MN 55413
(612) 331-1464



RECEIVED

NOV 12 2002

GROUP 3600

ATTACHMENT

1. (Twice Amended) A set of elements used to set up light display furniture for at least one display element comprising:
 - lower and upper hooking devices between which the display element is to be held;
 - ground support devices;
 - a base [having lower linking devices] attached to the lower hooking devices;
 - a flexible structure item being adapted to form an elevation structure which is attached to the base;
 - fixing devices having an [in the] opposite elevation direction from the support devices adapted to receive the flexible structure item;
 - said base having no more than one support area with a substantially elongate shape in the side direction for the ground support devices;

- [lower and upper hooking devices, wherein the] said lower hooking devices having [have] at least two separate ground support devices arranged to rest on the ground being spaced apart from each other, in a cross direction such as to form a wide abutment base; and

a flexible structure item having said lower and upper hooking devices attached to opposite ends thereof, and wherein said hooking devices have [having] length adjusting means for adapting to different width display elements and wherein said [flexible structure item] base has means for attaching the lower end of flexible structure items of various lengths at various locations on the base to permit [having a variety of lengths and base attachment locations for] adapting the structure to different length display elements.

9. (Thrice Amended) A set according to Claim 4, characterised in that lower hooking devices further include [two] support devices with the support devices being located at each [cross] end of the rod-shaped item.

10. (Thrice Amended) A set according to Claim 1, characterised in that the base has [at least] two parallel pieces, [stretched parts,] which are substantially longitudinally lined up on

either side of the fixing devices of the flexible structure,
each parallel piece [stretched part] having lower link devices
for the lower hooking devices.



RECEIVED
NOV 12 2002
GROUP 3600



SET OF ELEMENTS FOR FORMING FURNITURE FOR
VISUAL DISPLAY PRESENTATION, FURNITURE AND
PACKAGING ASSEMBLY FOR SAID SET

BACKGROUND OF THE INVENTION

RECEIVED

NOV 12 2002

GROUP 3600

1. Field of the Invention

The present invention relates to a set of units enabling to set up a light display element furniture, the furniture itself and packaging for the latter dismantled set, ~~for example with its display element.~~

5 This furniture enables to show information inside a room using display tools such as posters or similar equipment.

2. Description of the Related Art

The EP-A-768 684 document describes light poster display furniture as well as

10 We must also mention US-A-4 700 498, US-A-1 870 798 and US-A-2 005 134 documents.

In practice, it has been shown that such furniture could not be assembled easily or quickly enough, for certain uses.

Often, the great number of parts and their apparent interchangeability can cause assembling errors.

In order that such furniture can display posters of cross sizes and varied elevation, different X-elevation or display element hooking structure tubes with sizes corresponding to future posters must be produced and supplied.

Also, EP-A-768 684 document / *describes* X-structure bending strength, which although well suited to pressure applied to the poster, is insufficient to enable hooking up heavier display elements.

Thus, envelope-type display elements enabling to offer leaflets, cannot be presented with this kind of furniture.

Similarly, existing light furniture cannot be adapted to receiving accessories such as lights, sound appliances, or similar equipment. The display element should also be able to be installed on furniture without previously having to stick tubes or similar equipment to the latter.

Also, the base of such furniture should cover the smallest amount of ground space possible, while being at least as stable.

Other types of display element furniture are known.

Thus, the FR-A-2 725 543 document describes kakemono or similar equipment display furniture. The furniture includes a flexible bar whose lower part is embedded into a base and its upper part includes a notch used to hang the kakemono.

This kind of furniture is quite heavy. The weight, of its base in particular, is for example about 15 kilograms. This makes its handling and transport fastidious.

This furniture is also not suited to postal dispatching.

Also, because of their display function, it is advisable for the furniture to have technically useful components, that can be seen as little as possible, or whose structure looks as appealing as possible.

5 Whereas there is still strong demand nowadays that cannot be met for cheaper furniture offering solutions to abovestated problems.

SUMMARY OF THE INVENTION

The present invention notably aims to solve these drawbacks.

10 It aims, amongst other things, to offer a stable, light, easily and quickly assembled display furniture, that can be adapted more easily to a varied-size display element.

Thus, the first invention object is a set of units required to assemble a light display element furniture, under slight elevation pressure, as defined in Claims.

15 According to the present invention, the base only uses one ground support area ^{and} sometimes none.

A second present invention object is a light display element furniture, combining a display element and a Set of units, ~~according to Claims~~.

20 A third present invention object is a packaging that includes a container such as, for example, a cylindrical cardboard tube comprising a Set of units and/or a dismantled furniture, ~~according to Claims~~.

25 ~~Other invention characteristics are taken from the description herebelow and refer to Figures in appendix as follows:~~

BRIEF DESCRIPTION OF THE DRAWINGS

- Figure 1 is a three-quarter back elevation angle schematic view of how to assemble furniture according to a present invention's assembling method;
- 5 - Figure 2 is a front elevation schematic view of figure 1 furniture;
- Figure 3 is a back elevation schematic view of figure 1 furniture;
- 10 - Figure 4a is a three-quarter back elevation angle schematic view of how to assemble hooking devices according to the present invention;
- Figure 4b is a side elevation schematic view of figure 4a hooking devices;
- 15 - Figure 5 is a front schematic view of other display element-linked hooking devices;
- Figure 6 is a three-quarter back elevation angle schematic view of how to assemble the binding item according to the present invention;
- Figure 7 is a side elevation schematic view of how to assemble the base according to the present invention;
- 20 - Figure 8 is a top schematic view of the Figure 7 base;
- Figure 9 is a side elevation schematic view of how to assemble the upper linking devices according to the present invention;
- 25 - Figure 10 is an elevation angle schematic view of how to assemble an elevation structure according to the present invention, before assembling;

- Figure 11 is an angle schematic view of a packaging set according to the present invention;
- Figure 12 is a partial longitudinal elevation view of how to assemble a base and its two opposite lengthways branches with no own support devices, a mechanism being planned in the single reception case of a flexible elevation structure, with an anchor valve in the case and flexible item stopper, as well as this flexible item's elastic quick extraction return unit;
- 10 - Figure 13 is a partial top view of the Figure 12 base;
- Figure 14 is a partial elevation back cross angle schematic view of how to assemble furniture equipped with a removable display element lighting system;
- 15 - Figure 15 is a longitudinal elevation section view of how to assemble a front single-branch base with a metal ballasting/hardening insert in a moulded casing made of synthetic material such as acrylonitrile butadiene styrene or " ABS ";
- Figure 16 is a top angle view of the Figure 15 base;
- 20 - Figures 17 to 19 show, via a longitudinal elevation, how to assemble linking devices or dual-side support elements in synthetic material found in the upper display element hooking area. Figure 17 shows this support with strip board female parts assembled by hooking them onto support spigots;
- 25 - Figures 20 and 21 are respectively end cover longitudinal, then cross sections;

- Figures 22 to 24 are similar to figures 17 to 19 and show linking or first support side devices, so figure 22 only shows one strip board female part;
- 5 - Figure 25 is a longitudinal cross drawing schematic view of how to assemble strip board end plug hooking devices according to the present invention;
- Figure 26 is a longitudinal elevation cross section of the figure 25 plug, showing the shape of this plug's elastic clipping straps at one strip board cross end;
- 10 - Figure 27 is a longitudinal elevation view of the plug in figures 25 and 26; and
- Figure 28 is a longitudinal elevation cross section of strip board assembling with tightening via an insert that is part of display element support, via tightening equipment and with a complementary cavity.

DETAILED DESCRIPTION OF THE INVENTION

On the Figures, mutually octagonal L, T and E directions are shown.

L is the side direction, T is the cross direction and E is elevation direction.

20 They define the main directions chosen to describe the present invention. These directions can turn any way in the given space.

25 In the assembled furniture description, L direction corresponds to a depth of furniture seen from the front, as in figure 2. Whereas T direction corresponds to its width. E direction is its height and is substantially vertical.

L and T directions therefore define a drawing that is considered to be parallel to a support drawing on which the furniture rests, in display position.

5 The support drawing is then substantially horizontal for the ground, for example.

L, T and E directions are separate unit references used to ease the description of furniture assembly directions.

10 Please note that the terms "lower" or "low" and "upper" or "high" are used according to the E elevation direction, respectively as showing a location directed towards the ground and opposite ground.

Whilst, the terms "in front" or "front" and "back" show an L side direction.

15 Element set 1, according to the present invention, is used, with a display element 2 notably, to set up a light display furniture 3 for the aforementioned display element 2.

Furniture 3 is assembled without tools, using set 1 elements.

Element set 1 includes a combination of the following:

20 - hooking elements or devices 4 to display element 2;

- a base 5;

- one or several flexible structure items 6;

- upper linking devices 7, here seen as a single element.

According to assembling method, display element 2 is a poster 8 including two cross edges 9, 9a and two edges 10,

stretching in the E elevation direction respectively substantially parallel two by two.

Poster 8 shows a visible front face 11 supporting information and a hidden back face 12 on the opposite side 5 of front face 11.

Poster 8 includes hooking devices 4 on each of its cross edges 9, 9a.

Hooking devices 4 include upper hooking devices 13 and lower hooking devices 14.

10 Here, these devices 13 and 14 are for example, hollow tube-shaped carbon fibre rods.

To present display elements 2 of various widths, according to T cross direction, only corresponding hooking devices 13 and 14 sizes must be changed.

15 For this assembly, such changes require to have the appropriate device 13 and 14 replacement size.

Upper hooking devices 13 are assembled on the poster 8 upper 9a cross edge.

20 These devices 13 have substantially equal cross sizes to poster 8 cross sizes.

They include a binding item 15 joining a rod-shaped item 16.

In figure 4b, binding item 15 has an open side section shape p defined by a shaft 17 and head 18.

25 This item 15 includes poster 8 first holding devices 19 and second holding devices 20 with rod-shaped item 16.

First holding devices 19 are found at shaft 17 level.

They enable true binding with poster 8.

These devices 19 are found as plane 21.

Plane 21 is delimited by a cross edge 22, which is here substantially parallel to poster 8 upper cross edge 9a and 5 two E elevation edges 23 that are substantially parallel two by two.

This plane 21 is a binding area ready to be assembled by welding, sticking, stapling, or similar action, to poster 8 back 12.

10 On Figure 6, a slit 24 is opened all the way along cross edge 22.

Inside slit 24 are edges 25. These protrude towards inside slit 24, following L side direction, and lie facing each other, according to T cross direction.

15 Thus, the slit 24 receives poster 8 upper cross edge 9a. The latter is held together by elastic gripping or "clipping" via edges 25.

Plane 21 is prolonged according to E elevation direction at head 18 level by second holding devices 20.

20 Second holding devices 20 are shown as a flap 26. Flap 26 protrudes from poster 8 upper cross edge 9a.

Flap 26 stretches across and forms an open channel 27. Channel 27 is open at back 12 of poster 8. The channel 27 opening is pointed towards the ground, according to E 25 elevation direction.

Channel 27 is ready to receive rod-shaped item 16.

An opening 28 is made in the middle of flap 26, equidistant from elevation edges 23.

This opening 28 is used for linking item 16 with upper linking devices 7.

5 Here, the item 16 is a synthetic, for example, carbon fibre cylindrical tube which lies across.

Lower hooking devices 14 are found on the poster 8 lower cross edge 9 level. They include a binding item 15 for poster 8 and a rod-shaped item 16 as described above, as 10 well as support devices 29.

Support devices 29 are to stand on the ground. There are two here set at each cross end of the rod-shaped item 16.

Each support devices 29 is a part 30, notably perpendicular to the cross direction T, rounded, for example a cross axis 15 wheel, in figure 1.

While assembling, devices 29 are ready to lengthen devices 14 to adapt the furniture 3 cross T size to display element 2. Thus, with only one devices 14 hollow tube and extension devices 29, the same furniture 3 can offer various display 20 element 2 cross sizes.

Devices 14 are linked to base 5, notably via a rod-shaped item 16.

Base 5 is mainly extended according to L side direction, perpendicularly to devices 14.

25 It has a general head shape 31, the long longitudinal 32 part of head shape 31 is set next to devices 14.

This part 32 includes here two parallel pieces 33, extending sideways towards the devices 14.

When performing figure 12 to 28, base 5 is a single unit, for example from a synthetic and/or light metal mould, like 5 aluminium.

These side parts 33 include linking devices 34 lower than devices 14 at their end next to devices 14.

Lower linking devices 34 are hook-shaped 59. The latter is linked with item 16 at opening 28 of flap 26, and its cavity 10 enables to support item 16, when display element 2 is taut.

On the right of the curved part 31a of head 31, lower cross face 36, which rests on ground, is support device 35 for the base. Here, support 35 is a single support area 58 for base 5.

15 Curved part 31a also includes, on its upper face 37 which here is longitudinal in the direction of E elevation, opposite lower cross face 36, fastening devices 38 for flexible structure item 6.

20 Fastening devices 38 include one or several cases 39 opening upwards substantially according to E elevation direction.

In figure 7, there are four cases 39.

These cases 39 have sections that are substantially perpendicular to E elevation direction and different from one another.

25 More precisely, these cases 39 are lined up behind one another according to L side direction. Their sections are increasing areas from front to back, from lower linking

~~increasing areas from front to back, from lower linking devices 34 to the opposite end of head 31. Thus, case 39 of the smallest section is closest to these devices 34.~~

5 Each case 39 has a substantially additional section to one from a lower end 40 of a predetermined flexible structure item 6 which it will receive.

This enables to easily and quickly determine the flexible structure item 6 side position with base 5 and thus avoid furniture 3 assembling errors.

10 This position also guarantees that poster 8 is subjected to maximum stress, according to item 6 height.

Flexible structure item 6 is ready to form an elevation structure 41, alone or by assembling one or several other flexible structure items 6.

15 Elevation structure 41 is flexible enough to allow slight bending in relation to the E elevation direction. This side bending forward defines stress exerted on display element 2. Structure 41 is however harder than known X elevation structures and thus enables to keep heavy display elements 2 under stress.

20 Flexible structure item 6 is in figure 10, a flat-cone shape tube 44, whose great section which is perpendicular to E direction, is on the base 5 side. Lower and upper ends 40, 42 of item 6 respectively have assembling devices 43 to link them to the other items 6.

25 Figure 10 items 6 are synthetic, for example in carbon fibre. More precisely, these items 6 are obtained by winding round carbon fibre hardened by coating.

Here, assembling devices 43 are male/female, enabling interlocking of tubes 44, 44a one after another to form an elevation structure 41.

In figure 10, devices 43 include a male section 45 protruding from tube 44 at its lower end 40, and a female case 46 fitting male section 45 end, at tube 44a upper end 42.

Here, male section 45 has a substantially cylindrical shape.

Elevation 41 structure length, and thus the number of 10 assembled items 6, is chosen according to displayed poster 8 elevation size.

When assembling, structure 41 is made up of three or four items 6 set end to end.

Each item 6 offers a flat-cone section at lower end 40, with 15 a different size, so that when items 6 are interlocked into each other they form a profiled structure 41 following E elevation direction, and generally look like a cane.

The lower end 40 of such a structure 41 therefore offers a section which is perpendicular to E direction and covers a 20 greater area than upper end 42.

Each lower end 40 is thus suited to be assembled in a precise base 5 case 39, of complementary size, without play and side or cross stress. Thus, there can be no confusion in choosing the appropriate case 39 to set elevation structure 25 41 to base 5.

This assembled equipment is easy to dismantle as it is assimilated to a sliding guidance according to E elevation direction. A structure 41 position in relation to base 5 is

determined by its lower end 40 stop at the bottom of the corresponding case 39.

Thus formed elevation structure 41 upper end 42 joins upper linking devices 7. In fact, these devices 7 are assembled on structure 41 end 42 by pushing them together tightly enough to ensure that they will remain tight after exerting stress on display element 2.

These devices 7 have a substantially cylindrical shape and are located at the flap 26 middle opening 28.

10 The longitudinal axis of the cylinder defined by linking devices 7 is thus substantially sideways and perpendicular to poster 8 upper cross edge 9a.

On one hand, these devices 7 have upper end 42 fixing devices 47 near poster 8 back protruding end 12.

15 See these devices 47 in figure 9 which are a substantially long case 48 according to E direction. Case 48 opening 49 is then set according to E elevation direction downwards, or towards base 5.

20 On the other hand, upper linking devices 7 offer a flat bevelled section 50 sideways on display element 2 front 11. Section 50 leans to the opposite side of base 5, front to back and from bottom to top. Thus, flat section 50 is substantially mixed with display element 2 front 11.

25 In its central area, this section 50 includes fixing devices 51 to upper hooking devices 13. Here, these devices 51 are a gutter-shaped notch 52, crossing and parallel to poster 8 upper cross edge 9a.

This gutter 52 is ready to receive rod-shaped item 16 and to keep it set on devices 7 by elastic gripping or similar means.

In figure 5, poster 8 has at least one cross hem 53 on one
5 of its cross edges 9 or 9a.

This hem 53 forms a kind of closed tube ready to receive rod-shaped item 16 in its concavity, by sliding it across. Hem 53 is usually sealed across via sticking, stitching, stapling, heat-gluing or similar means.

10 When assembling, poster 8 includes a cross hem 53 at each of its cross edges 9 or 9a.

Assembling furniture 3 is now described.

First, display element 2 is assembled using hooking devices 4, upper hooking devices 13 are assembled on upper cross edge 9a and lower hooking devices 14 are assembled on lower cross edge 9.

Devices 13 rod-shaped item 16 is then slid crossways into binding item 15 and into as well as held by gutter 52 of upper linking devices 7.

20 Devices 14 rod-shaped item 16 is also slid thus into binding item 15 and into as well as held by lower linking devices 34 of base 5. Support devices 29 are set at each cross end of item 16.

If required, according to display element 2 elevation size, 25 elevation structure 41 is formed by assembling several flexible structure items 6.

Structure 41 lower end 40 is then set into an appropriate base 5 case 39, and its upper end 42 into upper linking devices 7 case 48.

Assembling elevation structure 41 to the rest of the unit 5 comprising display element 2 requires bending the whole unit and particularly bending display element 2.

This bending causes elevation structure 41 to bend slightly sideways forward and its upper end 42 slightly in elevation direction towards the ground.

10 Once freed, the unit comprising display element 2 is trapped between upper linking devices 7 and lower linking devices 34. Structure 41 tends to straighten itself up and regain an elevation position because of its flexibility and causes display element 2 to be subjected to stress. While devices 15 29, which stand on the ground, ensure cross stability for furniture 3 joining base 5 support devices 35, which stabilise it sideways.

In thus assembled furniture 3, display element 2 is assembled and kept taut by elevation structure 41 pressure 20 joining support devices 29 and 35. This pressure is exerted upwards in elevation and also slightly sideways back.

Trihedral division of support devices 29 and 35 provides assembled furniture 3 with excellent stability, whatever the size of display element 2. Thus, furniture 3 rests 25 isostatically on the ground.

Also, floor space used is minimal due to free area left by cross bar and side shaft T-shape, defined by devices 14 and base 5. This eases lay-out of several furniture 3, placed next to each other. For example, back ends of several bases

5 can be placed side by side, together with several neighboring display elements 2, in order to form a continued and multi-faced display.

5 In figure 2, display element 2 is a flexible panel with envelopes 60 ready to contain leaflets or similar equipment.

Display element 2 can be made of cellulose-type material like paper and/or synthetic material, such as PVC, polyester or similar woven or unwoven material.

10 Each element of set 1 furniture 3 and its display element 2 is easily dismantled and carried in packaging unit 54 shown in figure 11.

Here, this unit 54 includes a cylindrical cardboard tube 55 whose size is suited to receive element set 1 and display element 2.

15 Unit 54 also herewith includes a shoulder strap bag 56 in synthetic canvas, with end cap 57, sealable via a peripheral zip. Tube 55 is housed in bag 56 to carry furniture 3 over your shoulder.

20 Dismantled elements 1 and display element 2 are slid inside tube 55 and thus form a compact and light bundle. As a result, unit 54 is thus light-weight, easily carried and sent by post.

25 We shall now describe how to assemble the present invention as shown in figures 12 to 28. In these figures, contents with identical or similar uses as those described previously have the same reference numbers.

Shown in figure 12, is how to assemble base 5 in two parts 32 or with longitudinally opposed branches.

This base 5 does not have its own support equipment.

A mechanism 57 is set in flexible elevation structure 6 single reception case 39, with a flexible item and anchoring piston 60 in the latter case, as well as an elastic quick 5 extraction element 61 of flexible item.

Thus, you must slide item 6, following E direction from top to bottom, into case 39 and piston 60, push lightly in the same direction to fix firmly the piston 60 and item 6 into notches 62, inside complementary hollows 63, against the 10 pressure from bottom to top of item 61, here a spring. Then, notches 63 hold the piston 60 and item 6 unit jointly onto base 5.

When dismantling for example, in order to free structure 6 from base 5, if you exert slight pressure, similar to when 15 assembling, notches 62 are loosened and spring 61 pushes and frees structure 6 upwards.

In figure 13, which is a partial top plan view of figure 12 base 5, you can clearly see the long cross shape of lower linking devices 34.

20 Here, these devices 34 form a substantially prismatic branch with a rectangular base projected in a plan which is perpendicular to E direction, with a large main base which is substantially parallel to T direction.

As can be seen in figure 12, this devices 34 branch leans 25 from top to bottom in relation to L direction, from case 39 to part 32 external longitudinal end, where the latter branch is located.

Please note that base 5, except for the added parts from its mechanism 57, is a single, moulded, synthetic unit with two longitudinally opposed branches 34.

5 Here, base 5 does not have its own support devices and has two long parts 32, lined up and substantially longitudinally opposed on each side of flexible structure 6 fixing devices 38. Each long part 32 has lower linking devices 34 for front and back lower hooking devices 14, with proper quadrilateral ground support devices 29.

10 In figure 14, which is a partial elevation back cross angle schematic view of present invention assembling method, furniture 3 is equipped with a removable display element 2 lighting system 64.

This system 64 includes the following:

15 - a removable power supply cable 65, with a transformer 66, linked to base 5;

- two base conductive rods 67, linked to structure 6 by cables 68 assembled on structure 6; and

- a light source 69, here a low voltage halogene bulb.

20 System 64 components can be easily dismantled from furniture 3 specifically, and easily stored in a packaging unit, like unit 54, shown in figure 11.

25 In figure 15, you can see a longitudinal elevation section of how to assemble a single or branch 32 front base 5, with a metal ballasting and hardening insert 70. A moulded casing 71, made of synthetic material such as acrylonitrile butadiene styrene or " ABS ", is covers insert 70.

Figure 16 is a top angle view of figure 15 base 5.

Figures 17 to 19 show, via a longitudinal elevation, how to assemble synthetic linking or dual-side support elements 7, which are part of upper display element hooking devices 13.

5 Figure 17 shows this support with binding items or strip board female parts 15 assembled by hooking them onto support spigots 72.

Figures 22 to 24 are similar to figures 17 to 19 and show link or first support side devices 7. Figure 22 therefore 10 only shows one strip board female part 15.

Figures 20 and 21 are respectively longitudinal, then cross sections of end cover 73 which is ready to be assembled as shown in figure 13, onto structure 6 upper end, as part of upper link devices 7.

15 Figure 25 is a longitudinal cross drawing schematic view of a hooking devices 4 strip board cross end plug 74 according to the present invention. For a lower hooking devices 14 strip board, this plug 74 makes up one of the support devices 29.

20 In figure 26, the figure 25 plug 74 shows the shape of this plug's elastic gripping straps 75 ready to be assembled at one strip board cross end.

In figure 27, plug 74 has two straps 75, with one on bottom of the other in elevation direction.

25 Upper strap 75 is bent in relation to L longitudinal direction, from top to bottom from back to front, and lower strap 75 shows a "C"-shaped open section in a perpendicular drawing to T direction.

Finally, Figure 28 shows a longitudinal elevation cross section of strip board assembling with tightening devices 23, via insert, being part of display element 2 hooking devices 13 or 14, via tightening, and with a cavity 56 which 5 is complementary to a back spigot 72.

Please note that when looking at figures 26 and 28 (which have inverted top and bottom directions in relation to each other), external perimeters, perpendicular to strip board devices 23 and plug 74 T direction are close, if not merged.

10 What is claimed is:

CLAIMS

1. Set of elements (1) used to set up light display furniture (3) for at least one display element (2), under substantial elevation stress, characterised in that said set

5 (1) comprises a combination of the following:

- lower (14) and upper (13) hooking devices between which the display element (2) is to be held,

- support devices (35) used to rest on ground,

- a base (5) comprising lower linking devices (34) to lower hooking devices (14),

- as well as fixing devices (38) set opposite according to elevation direction (E) of support devices (35) and ready to receive at least one lower end (40) of flexible structure item (6) from elevation structure (41),

15 - at least one flexible structure item (6), and for example three items (6) ready to be assembled end to end to form an elevation structure (41) including a lower end (40) and an upper end (42), the upper end (42) being ready to be linked, via upper linking devices (7), to upper hooking devices (13), while the lower end (40) is ready to be firmly fixed to fixing devices (38) of base (5),

20 - base (5) including no more than one, sometimes no, support area (38) for support devices (35) which is then substantially single (58), like selective or linear support, placed at a distance following a side direction (L) in destination furniture (3), of lower linking devices (34),

- lower hooking devices (14) including at least two of its own support devices (29) ready to rest on ground, respectively distant from one another according to a cross direction (T) in assembled destination furniture (3).

5 2. Set (1) according to Claim 1, characterised in that support devices (35) of base (5) and/or support devices (29) of lower hooking devices (14) are ready to be set in a trihedral or quadrilateral shape.

10 3. Set (1) according to ~~Claims 1 or 2~~ ^{Claim}, characterised in that support devices (29) of lower hooking devices (14) include at least one part (30) ready to be slid into place and/or clipped, and with a shape that is perpendicular to the cross direction (T), polygonal and/or round, this part (30) being a wheel, for example.

15 4. Set (1) according to ~~Claims 1 to 3~~ ^{Claim 1}, characterised in that lower (14) and/or upper (13) hooking devices include at least one rod-shaped item (16) ready to be placed across in order to join display element (2), either via a binding item (15), or directly.

20 5. Set (1) according to Claim 4, characterised in that rod-shaped item (16) is for example a carbon fibre tube, for example with uniform section.

25 6. Set (1) according to ~~Claims 4 or 5~~ ^{Claim 4}, characterised in that intermediate binding item (15) is a side open P section, in cross direction (T), including first holding devices (19) for the display element (2) and second holding devices (20) ready to receive rod-shaped item (16).

7. Set (1) according to Claim 6, characterised in that first holding devices (19) are joined to display element (2)

notably, via tightening, gluing, welding or gripping, for example elastic gripping called "clipping".

Claim 6

8. Set (1) according to ~~claims 6 or 7~~, characterised in that first holding devices (19) contain a slit (24) stretching across the edge (22) of binding item (15), found opposite second holding devices (20), ready to join to display element (2), slit (24) comprising edges (25) which protrude towards the inside slit (24), along side (L) direction and following cross (T) direction, edges (24) facing one 10 another.

Claim 3

9. Set (1) according to ~~claims 3 to 8~~, characterised in that lower hooking devices (14) include two support devices (29) located at each cross end of rod-shaped item (16).

Claim 1

10. Set (1) according to ~~claims 1 to 9~~, characterised in that base (5) has no support devices, and has at least two stretched parts (32), for example substantially longitudinally lined up on either side of fixing devices (38) of a flexible structure (6), each stretched part having lower link devices (34) for lower hooking devices (14), for example front and back, with its own, for example quadrilateral, support devices (29).

Claim 1

11. Set (1) according to ~~claims 1 to 10~~, characterised in that lower linking devices (34) are hook-shaped (59) ready to join the rod-shaped item (16), with elevation concavity 25 pointed towards support devices (35) of base (5).

Claim 1

12. Set (1) according to ~~claims 1 to 11~~, characterised in that fixing devices (38) of base (5) include several section cases (39) which are substantially perpendicular to elevation direction (E) and different from each other, each

case (39) thus having a section which is substantially complementary to a predetermined lower end (40) of a chosen flexible structure item (6).

13. Set (1) according to Claim 12, characterised in that cases (39) are substantially lined up following side direction (L), for example, their sections which are substantially perpendicular to elevation direction are decreasing areas towards lower linking devices (34).

Claim 1

14. Set (1) according to ~~Claims 1 to 13~~, characterised in that flexible structure item(s) (6) is(are) ready to form a substantially linear elevation structure (41).

Claim 1

15. Set (1) according to ~~Claims 1 to 14~~, characterised in that elevation structure (41) contains several flexible structure items (6), assembling devices (43) for each flexible structure item (6) ready to form at least one substantially flat-cone shaped cane, and at least one flexible structure item (6) being a tube (44), for example in carbon fibre.

16. Set (1) according to Claim 15, characterised in that lower end (40) of elevation structure (41) has a section covering a bigger area than its upper end (42).

Claim 14

17. Set (1) according to ~~Claims 14 to 16~~, characterised in that assembling devices (43) are at a lower end (40) of tube length (44), a section (45) protruding towards another tube (44a), and at upper end (42) of tube length (44a), a case (46) ready to receive section (45), being for example of cylindrical shape.

Claim 1

18. Set (1) according to ~~Claims 1 to 17~~, characterised in that upper linking devices (7) include first fixing devices

(51) for upper hooking devices (13) and second fixing devices (47) at upper ends (42) of elevation structure (41).

5 19. Set (1) according to Claim 18, characterised in that first fixing devices (51) of linking devices (7) include at least one notch, such as a gutter (52) and/or cross direction (T) spigot ready to join rod-shaped item (16), or a complementary concavity (56) of a binding item (15) of hooking devices (13).

Claim 18

10 20. Set (1) according to ~~Claims 18 or 19~~, characterised in that second fixing devices (47) of linking devices (7) include an open (49) case (48) pointed towards the base (5), ready to receive upper end (42) of elevation structure (41).

15 21. Light furniture (3) for a display element (2), characterised in that it includes a combined display element (2) assembled to set of units (1) according to any one of *Claim 1*
~~Claims 1 to 20~~.

20 22. Furniture (3) according to Claim 21, characterised in that display element (2) is a poster and/or information support such as a flexible panel with envelopes (60), for example in cellulose-type material like paper, and/or synthetic material like PVC, polyester or similar woven or unwoven material.

25 23. Packaging set (54) including a container such as a cylindrical tube (55), for example in cardboard, characterised in that it includes an element set (1) according to any one of *Claim 1*
~~Claims 1 to 20 and/or furniture (3)~~,
~~dismantled according to Claims 21 or 22~~.

(51) for upper hooking devices (13) and second fixing devices (47) at upper ends (42) of elevation structure (41).

19. Set (1) according to Claim 18, characterised in that first fixing devices (51) of linking devices (7) include at 5 least one notch, such as a gutter (52) and/or cross direction (T) spigot ready to join rod-shaped item (16), or a complementary concavity (56) of a binding item (15) of hooking devices (13).

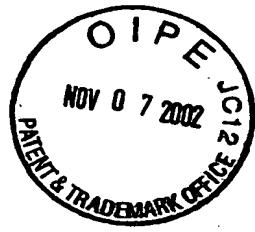
Claim 18

20. Set (1) according to ~~Claims 18 or 19~~, characterised in 10 that second fixing devices (47) of linking devices (7) include an open (49) case (48) pointed towards the base (5), ready to receive upper end (42) of elevation structure (41).

21. Light furniture (3) for a display element (2), characterised in that it includes a combined display element (2) assembled to set of units (1) according to ~~any one of~~ 15 *Claim 1* ~~Claims 1 to 20~~.

22. Furniture (3) according to Claim 21, characterised in that display element (2) is a poster and/or information support such as a flexible panel with envelopes (60), for 20 example in cellulose-type material like paper, and/or synthetic material like PVC, polyester or similar woven or unwoven material.

23. Packaging set (54) including a container such as a cylindrical tube (55), for example in cardboard, 25 characterised in that it includes an element set (1) according to ~~any one of~~ *Claim 1* ~~Claims 1 to 20 and/or furniture (3)~~ ~~dismantled according to Claims 21 or 22~~.



SUMMARY

A Set of elements used to assemble display element furniture, furniture and packaging unit for said set.

5

Set of elements (1) used to set up light display furniture (3) for a display element (2), said set (1) comprising at least a combination of the following:

lower (14) and upper (13) hooking devices,

10 support devices (35), for example on lower hooking devices (14), used to rest on ground,

a base (5) comprising a maximum of one, or no set support devices (35), and

an elevation structure (41).

15

Figure 1

ABSTRACT

An assembly of elements for light display furniture using a combination of lower and upper hooking devices, support devices resting on the ground for the lower hooking devices, a supporting base and an elevation structure.